

# WARRANTED HOT MIX ASPHALT PAVEMENTS:

## An Overview

# HISTORY

- 1890's to 1910's
  - HMA patented
  - 10 or 15 year warranty
  - material and workmanship

# Warren Brothers Warranty Seal



# HISTORY

- 1920's
  - patent protection lost
  - warranties discontinued
- 1950's
  - federal participation in construction
  - state responsible for maintenance
  - warranties not allowed

# HISTORY

- 1990
  - European Asphalt Study Tour
  - FHWA Special Experimental Project 14
  - innovative contracting methods  
(includes warranties)

# HISTORY

- 1993
  - first pavement warranty project
- 1995
  - three warranty projects
- 1996
  - seven warranty projects
- 1997
  - more than 20 warranty projects

# TRANSPORTATION RESEARCH BOARD

- 1992
  - committee formed
- 1994
  - workshop held
  - “Development of Pavement Performance Measures in the contract Equation”

# TRB WORKSHOP OUTCOME

Two methods for specifying performance

- predict performance  
(lab tests)
- measure performance  
(warranty)



# Warranty Types

- Materials and Workmanship
- Performance

# Materials and Workmanship Warranty

- Follow state specifications
- Define unacceptable performance
- If problem, forensic to determine if specifications were met

# Warranty Specification Details

- Acceptance Criteria
- Performance criteria
- Size of elements
- Pavement evaluation
- Dispute resolution

# Warranty Specification Details- Acceptance Criteria

- Quality control plan
- Certification of project

# Warranty Specification Details- Performance Criteria

- Engineering Properties
  - rutting
  - cracking
  - raveling
- User Properties
  - smoothness
  - safety (hydroplaning in ruts)
  - safety (friction number)

# Warranty Specification Details- Element Size

- Entire Project
- Mile
- Tenths of mile

# Warranty Specification Details- Pavement Evaluation

- How often?
- Sample rate?
- Flow of information?

# Warranty Specification Details- Dispute Resolution

- Pre-define method to resolve dispute
- Parties agree before hand on method of resolution



# BENEFITS

- definition of success
- balanced risk
- innovation rewarded
- non-confrontational construction
- improved quality

# Close

- Warranties used in the past
- use discontinued from 1920's to 1990's
- reintroduced based on European experience
- focus on customer satisfaction

**THE END**